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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,591	01/18/2002	Bruce Kenneth Furman	YOR920010217US1	2983

7590

08/29/2003

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EXAMINER

STONER, KILEY SHAWN

ART UNIT PAPER NUMBER

1725

DATE MAILED: 08/29/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,591

Applicant(s)

FURMAN ET AL.

Examiner

Kiley Stoner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 10 is/are rejected.
- 7) ☒ Claim(s) 8,9 and 11-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1 and 3-7 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-3, 5-6 and 13 of copending Application No. 10/052,620. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the instant application are broader than those of 10/052,620, therefore the claims of the instant application are envisioned by 10/052,620.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-7 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-7 of copending Application No. 10/052,619. Although the conflicting claims are not identical, they are

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not patentably distinct from each other because the claims of the instant application are broader than those of 10/052,619, therefore the claims of the instant application are envisioned by 10/052,619. The microdentritic pad array of claim 1 reads on a device chip.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Jackson et al. (3,942,245). Jackson et al. teaches a microjoint chip carrier including a multilayer substrate having a plurality of receptacles in its top surface (Figure 1, #10-11; Figure 3; and column 2, lines 17-23); a set of microjoint pads on the device chips that match the said receptacles (Figure 3, #19). It is inherent that the semiconductor device (#20) has pads, so that the solder protrusions (studs) (#19) will adhere to the surface of the semiconductor and will be in electrical communication with the semiconductor.

Jackson et al. also teaches interconnect wiring in the carrier connecting the carrier receptacles so as to allow the interconnection of device chips (Figures 3-4, #17 and 22); the pads on the device chips are formed to have studs extending from the top

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surface (#19, solder protrusions); forming the microjoint structure by building a carrier in the form of a multilayer substrate having a plurality of receptacles in its top surface (Figure 1, #10-11; Figure 3; and column 2, lines 17-23); forming a set of pads with studs extending outwards from them on the device chips (Figure 3, #19). It is inherent that the semiconductor device (#20) has pads, so that the solder protrusions (studs) (#19) will adhere to the surface of the semiconductor and will be in electrical communication with the semiconductor. In addition, Jackson et al. teaches matching and joining the pads on the device chips to the receptacles on the carrier, and forming interconnect wiring that connects the carrier receptacles (Figure 4).

Claims 1-2 and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown (4,413,308). The Examiner has considered the substrate (#10) as the carrier, since it supports the integrated circuit, and the chip (#13) as the chip device. Brown teaches a microjoint chip carrier including a multilayer substrate having a plurality of receptacles in its top surface (Figures 1 and 4-5) a set of microjoint pads on the device chips that match the said receptacles (Figures 4-5, #14).

Brown also teaches interconnect wiring in the carrier connecting the carrier receptacles so as to allow the interconnection of device chips (Figures 4-5); the pads on the device chips are formed to have studs extending from the top surface (Figures 4-5, #14 and 19); forming the microjoint structure by building a carrier in the form of a multilayer substrate having a plurality of receptacles in its top surface (Figures 1 and 4-5); forming a set of pads with studs extending outwards from them on the device chips

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(Figures 4-5, #14 and 19). In addition, Brown teaches matching and joining the pads on the device chips to the receptacles on the carrier, and forming interconnect wiring (#12) that connects the carrier receptacles (Figures 4-5).

Allowable Subject Matter

Claims 8-9 and 11-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art of record that is cited as of interest is presented on the form-892.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kiley Stoner whose telephone number is (703) 305-0723. The examiner can normally be reached on Monday-Thursday (7:30 a.m. to 6:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tom Dunn can be reached on Monday-Friday. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Kiley Stoner A.U. 1725
Kiley Stoner 8-18-03